

01-08-04

**TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT
(Under 37 CFR 1.97(b) or 1.97(c))**

Docket No.
14984.12.2.1

In Re Application of: Bill Hill, et al.

JAN 07 2004

Serial No.	Filing Date	Examiner	Group Art Unit
10/4108357	June 24, 2003	Unassigned	2173

Title: IMPROVING THE QUALITY OF DISPLAYED IMAGES WITH USER PREFERENCE INFORMATION

Address to:

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

37 CFR 1.97(b)

1. The Information Disclosure Statement submitted herewith is being filed within three months of the filing of a national application other than a continued prosecution application under 37 CFR 1.53(d); within three months of the date of entry of the national stage as set forth in 37 CFR 1.491 in an international application; before the mailing of a first Office Action on the merits, or before the mailing of a first Office Action after the filing of a request for continued examination under 37 CFR 1.114.

37 CFR 1.97(c)

2. The Information Disclosure Statement submitted herewith is being filed after the period specified in 37 CFR 1.97(b), provided that the Information Disclosure Statement is filed before the mailing date of a Final Action under 37 CFR 1.113, a Notice of Allowance under 37 CFR 1.311, or an Action that otherwise closes prosecution in the application, and is accompanied by one of:

the statement specified in 37 CFR 1.97(e);

OR

the fee set forth in 37 CFR 1.17(p).

TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT
(Under 37 CFR 1.97(b) or 1.97(c))

Docket No.
14984.12.2.1

In Re Application: Bill Hill, et al.

JAN 07 2004

Serial No.
10/603,537

Filing Date
June 24, 2003

Examiner
Unassigned

Group Art Unit
Unassigned

IMPROVING THE QUALITY OF DISPLAYED IMAGES WITH USER PREFERENCE

Payment of Fee

(Only complete if Applicant elects to pay the fee set forth in 37 CFR 1.17(p))

A check in the amount of _____ is attached.

The Director is hereby authorized to charge and credit Deposit Account No. 23-3178 as described below.

Charge the amount of _____

Credit any overpayment.

Charge any additional fee required.

Certificate of Transmission by Facsimile*

I certify that this document and authorization to charge deposit account is being facsimile transmitted to the United States Patent and Trademark Office (F:

(Date)

Signature

Typed or Printed Name of Person Signing Certificate

Certificate of Mailing by First Class Mail

I certify that this document and fee is being deposited on _____ with the U.S. Postal Service as first class mail under 37 C.F.R. 1.8 and is addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Signature of Person Mailing Correspondence

Typed or Printed Name of Person Mailing Certificate

*This certificate may only be used if paying by deposit account.

R. Burns Israelsen

Signature

R. BURNS ISRAELSEN
Attorney for Applicant
Registration No. 42,685

Dated: January 7, 2004

CUSTOMER NUMBER: 022913

CC:



EXPRESS MAIL NO. EV 396 739 712 US

PATENT APPLICATION
Docket No: 14984.12.2.1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Serial No.:	10/603,537) Art Unit Unknown
Confirmation No.:	Unknown)
Filed:	June 24, 2003)
For:	IMPROVING THE QUALITY OF DISPLAYED IMAGES WITH USER PREFERENCE INFORMATION)
Examiner:	Unknown)

INFORMATION DISCLOSURE STATEMENT
UNDER 37 C.F.R. § 1.97

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Please find, pursuant to 37 C.F.R. § 1.98(a)(1), the enclosed Form PTO-1449 which contains a list of all patents, publications, or other items that have come to the attention of one or more of the individuals designated in 37 C.F.R. § 1.56(c). While no representation is made that any of these references may be "prior art" within the meaning of that term under 35 U.S.C. §§ 102 or 103, the enclosed list of references is disclosed so as to fully comply with the duty of disclosure set forth in 37 C.F.R. § 1.56.

Moreover, while no representation is made that a specific search of office files or patent office records has been conducted or that no better art exists, the undersigned attorney of record believes that the enclosed art is the closest to the claimed invention (taken in its entirety) of which the undersigned is presently aware, and no art which is closer to the claimed invention (taken in its entirety) has been knowingly withheld.

In accordance with 37 C.F.R. §§ 1.97 and 1.98, a copy of each of the listed references or relevant portion thereof is also enclosed.

In accordance with 37 C.F.R. § 1.98(c), all English translations within the possession, custody, control or availability of anyone designated in 37 C.F.R. § 1.56(c) of each non-English reference, if any, are also enclosed.

DATED this 7 day of January, 2004.

Respectfully submitted,



R. BURNS ISRAELSEN
Attorney for Applicant
Registration No. 42,685
Customer No. 022913

RBI: blw
W:\14984\12.2.1\BLM0000001993V001.doc

Applicant:

Bill Hill et al.

Serial No.:

10/603,537

Att'y Docket No.: 14984.12.2.1

Filing Date:

June 24, 2003

Group: 2173

For:

**IMPROVING THE QUALITY OF DISPLAYED IMAGES
WITH USER PREFERENCE INFORMATION**



INFORMATION DISCLOSURE CITATIONS MADE BY APPLICANT

U.S. Patent Documents

<u>Examiner Initial*</u>	<u>Document Number</u>	<u>Issue Date</u>	<u>Name</u>
____ 1	4,136,359	1/23/1979	Wozniak
____ 2	4,217,604	8/12/1980	Wozniak
____ 3	4,278,972	7/14/1981	Wozniak
____ 4	4,600,274	7/15/1986	Morozumi
____ 5	4,703,318	10/27/1987	Haggerty
____ 6	4,851,825	7/25/1989	Naiman
____ 7	5,057,739	10/15/1991	Shimada et al.
____ 8	5,113,455	5/12/1992	Scott
____ 9	5,122,783	6/16/1992	Bassetti, Jr.
____ 10	5,153,577	10/6/1992	Mackey et al.
____ 11	5,254,982	10/19/1993	Feigenblatt et al.
____ 12	5,298,915	3/29/1994	Bassetti, Jr.
____ 13	5,334,992	8/2/1994	Rochat et al.
____ 14	5,334,996	8/2/1994	Tanigaki et al.
____ 15	5,341,153	8/23/1994	Benzschawel et al.

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609, draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant:

Bill Hill et al.

Serial No.:

10/603,537

Filing Date:

June 24, 2003

For:

IMPROVING THE QUALITY OF DISPLAYED IMAGES
WITH USER PREFERENCE INFORMATION

Att'y Docket No.: 14984.12.2.1

Group: 2173

<u> </u> 16	5,404,432	4/4/1995	Koopman et al.
<u> </u> 17	5,543,819	8/6/1996	Farwell et al.
<u> </u> 18	5,444,460	8/22/1995	Fujitaka et al.
<u> </u> 19	5,467,102	11/14/1995	Kuno et al.
<u> </u> 20	5,548,305	8/20/1998	Rupel
<u> </u> 21	5,502,490	3/26/1996	Takanashi et al.
<u> </u> 22	5,555,360	9/10/1996	Kumazaki et al.
<u> </u> 23	5,623,593	4/22/1997	Spells, III
<u> </u> 24	5,633,654	05/27/1997	Kennedy, Jr. et al
<u> </u> 25	5,633,772	09/02/1997	Uehara et al
<u> </u> 26	5,689,283	11/18/1997	Shirochi
<u> </u> 27	5,757,347	05/26/1998	Han
<u> </u> 28	5,767,837	06/16/1998	Hara
<u> </u> 29	5,821,913	10/13/1998	Mamiya
<u> </u> 30	5,847,698	12/08/1998	Reavey et al.
<u> </u> 31	5,894,300	04/13/1999	Takizawa
<u> </u> 32	5,963,185	10/05/1999	Havel
<u> </u> 33	6,115,151	09/05/2000	Popovich
<u> </u> 34	6,151,006	11/21/2000	Yanagi et al.

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609, draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant: Bill Hill et al.
 Serial No.: 10/603,537
 Filing Date: June 24, 2003

Att'y Docket No.: 14984.12.2.1
 Group: 2173

For:
 IMPROVING THE QUALITY OF DISPLAYED IMAGES
 WITH USER PREFERENCE INFORMATION

<i>O I P F</i> <i>JAN 07 2004</i> <i>PATENT & TRADEMARK OFFICE</i>	35	6,211,859 B1	04/03/2001	Lin et al.
	36	6,232,947 B1	05/15/2001	Miyawaki, et al.
	37	6,624,828 B1	09/23/2003	Dresevic et al.

Foreign Patent Documents

Examiner Initial*	Document Number	Publication Date	Country or Patent Office
38	0,673,012 A3	09/20/1995	EPO
39	0,330,361 B1	04/21/1993	EPO
40	0,435,391 B1	12/18/1990	EPO
41	0,526,135 B1	07/24/1992	EPO

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609, draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant:

Bill Hill et al.

Serial No.:

10/603,537

Att'y Docket No.: 14984.12.2.1

Filing Date:

June 24, 2003

Group: 2173

For F

OPP F

JAN 07 2004

CITIEST & TRADEMARK OFFICE

**IMPROVING THE QUALITY OF DISPLAYED IMAGES
WITH USER PREFERENCE INFORMATION**Examiner
Initial*Other Documents

(including author, title, pertinent pages, etc.)

42 Ahumada, A Jr. and Beard, B.L. "43.1: A Simple Vision Model for Inhomogeneous Image Quality Assessment". NASA Ames Research Center, Moffett Field, CA.

43 Barbier, B., F. L'Hote, and J. Plantier. 1997. 25.1: Multi-Scale Filtering for Image Quality on LCD Matrix Displays. *SID 96 Digest*. Pages 1-5.

44 Barten, P.G.J. P-8: Effect of Gamma on Subjective Image Quality. *SID 96 Digest*. Pages 1-4.

45 Beck, D.R. Motion Dithering for Increasing Perceived Image Quality for Low-Resolution Displays. *1998 SID*.

46 Bedford-Roberts, J. and D. Reynolds. 10:4: Testing the Value of Gray-Scaling for Images of Handwriting. *SID 95 Digest*. Pages 125-128.

47 Chen, L.M. and S. Hasegawa. Visual Resolution Limits for Colour Matrix Displays. 1992 Butterworth-Heinemann Ltd. Vol 13 No 4 1992. Pages 179-186.

48 Cordonnier, Vincent. Antialiasing Characters by Pattern Recognition. *SID*, Vol 30/1 1989. Pages 23-28.

49 Cowan, William. Displays for Vision Research. *Handbook of the Optics: Fundamentals, Techniques, and Design*. Second Edition, Volume I. Chapter 27.

50 Crow, Franklin C. The Use of Grayscale for Improved Raster Display of Vectors and Characters. *Computer Graphics*. Volume 12, Number 3, August 1978. Pages 1-5.

51 Feigenblatt, R.I. Full-color Imaging on Amplitude-quantized Color Mosaic Displays. *SPIE Col. 1075 Digital Image Processing Applications* (1989). Pages 199-205.

52 Gould, John D., Lizette Alfaro, Rich Finn, Brian Haupt and Angela Minuto. Reading from CRT Displays Can Be as Fast as Reading from Paper. *Human Factors*, 1987, 29 (5), Pages 497-517.

53 S. Gupta and P. Sholtz. Anti-Aliasing Characters Displayed by Text Terminals. *IBM® Technical Disclosure Bulletin*, (Vol. 25, No. 12, May 1983). Pages 6434-6436.

54 Zen-ichiro Hara, Nobuo Terazaki, Naoki Shiramatsu and Shuji Iwata. Picture Quality of Different Pixel Arrangements for Large-Sized Matrix Displays.

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609, draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant:

Bill Hill et al.

Serial No.:

10/603,537

Att'y Docket No.: 14984.12.2.1

Filing Date:

June 24, 2003

Group: 2173

**IMPROVING THE QUALITY OF DISPLAYED IMAGES
WITH USER PREFERENCE INFORMATION**

O I P F For:
JAN 07 2004
PATENT & TRADEMARK OFFICE

_____ 55 *Electronics and Communications in Japan, Part 2, Vol. 77, No. 7, 1994. Pages 105-120. (Translated from Densi Joho Tsushin Gakkai Ronbunshi, Vol. 77-CII, No. 3, March 1994, Pages 148-159.)*

_____ 56 J. Kajiya and M. Ullner. Filtering High Quality Text for Display on Raster Scan Devices. *Computer Graphics*, Volume 15, Number 3, August 1981. Pages 7-15.

Y. Kato, A. Yasuda, K. Ichida. 13.2: A Fourier Analysis of CRT Displays Considering the Mask Structure, Beam Spot Size, and Scan Pattern. *Sony Display Co., Kanagawa, Japan*. 4 pages.

_____ 57 John H. Krantz, Louis D. Silverstein. 4.5: Color Matrix Display Image Quality: The Effects of Luminance and Spatial Sampling. *SID 90 Digest*-1990. Pages 29-32.

_____ 58 K. Kubala, A. Hatch, R.B. Hooker, L. Lewis, University of Colorado, Boulder, CO; Ball Aerospace & Technologies Corp., Boulder, CO. 27.4: Investigation into Variable Addressability Image Sensors and Display Systems. *SID 90 Digest*-1990. 4 pages.

_____ 59 Don P. Mitchell, AT&T Bell Laboratories, Murray Hill, New Jersey 07974. Generating Antialiased Images at Low Sampling Densities. *Computer Graphics*, Volume 21, Number 4, July 1987. Pages 65-69.

_____ 60 Don P. Mitchell, Arun N. Netravali, AT&T Bell Laboratories, Murray Hill, New Jersey 07974. Reconstruction Filters in Computer Graphics. *Computer Graphics*, Volume 22, Number 4, August 1988.

_____ 61 R.A. Morris, R.D. Hersch and A. Coimbra. Legibility of Condensed Perceptually-Tuned Grayscale Fonts. *Electronic Publishing, Artistic Imaging, and Digital Typography*-1998. Pages 281-293.

_____ 62 Gerald Murch, Larry Virgin-Tektronix, Inc., Beaverton, OR. 7.1: Resolution and Addressability: How Much is Enough? *SID 85 Digest*. Pages 101-103.

_____ 63 Avi Naiman. Some New Ingredients for the Cookbook Approach to Anti-Aliased Text. *Graphics Interface '84 - Computes rendus*. Pages 99-108.

_____ 64 Avi Naiman, Alain Fournier. Rectangular Convolution for Fast Filtering of Characters. *Computer Graphics*. Volume 21, Number 4, July 1987.

_____ 65 10.1: A.C. Naiman, W. Makous. The Visibility of Higher-Level Jags. *SID 95 Digest*. Pages 113-116.

_____ 66 E. Peli, A.T. Labianca, L. Arend. 35.4: Luminance and Spatial-Frequency Interaction in the Perception of Contrast. *SID 96 Digest*. Pages 1-5

_____ 67 Alison Pringle, Peter Robinson, Neil Wiseman. Aspects of Quality in the Design and Production of Text. *1979 ACM - University of Cambridge*. Pages 63-70.

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609, draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant:

Bill Hill et al.

Serial No.:

10/603,537

Att'y Docket No.: 14984.12.2.1

Filing Date:

June 24, 2003

Group: 2173

For:

**IMPROVING THE QUALITY OF DISPLAYED IMAGES
WITH USER PREFERENCE INFORMATION**

O I P E
JAN 07 2004
PATENT & TRADEMARK C

68 J. Le Rohellec, H. Brettel, J. Glasser. 35.2: LCD Legibility Under Different Lighting Conditions as a Function of Character Size and Contrast. *SID 96 Digest*. Pages 1-5.

69 Christopher Schmandt. Soft Typography. *Information Processing 80. S.H. Lavington (Ed.)*, North-Holland Publishing Company, ©IFIP, 1980. Pages 1027-1031.

70 James E. Sheedy, Molly McCarthy. Reading Performance and Visual Comfort with Scale to Grey Compared with Black-and White Scanned Print. *Displays, Volume 15 number 1, 1994*. Pages 27-30.

71 A.A.S. Sluyterman. 13.3: A Theoretical Analysis and Empirical Evaluation of the Effects of CRT Mask Structure on Character Readability. *SID 1998*. No page numbers.

72 Charles Tung. Resolution Enhancement Technology in Hewlett-Packard LaserJet Printers. *SPIE Vol. 1912 Color Hard Copy and Graphic Arts II (1993)*. Pages 440-448.

73 John E. Warnock. The Display of Characters Using Gray Level Sample Arrays. *1980 ACM 0-89791-021-4/80/0700-0302*. Pages 302-307.

74 Turner Whitted. Anti-Aliased Line Drawing Using Brush Extrusion. *Computer Graphics Volume 17, Number 3, July 1983*. Pages 151-156.

75 Sai Yu, Cecil Penn, and Karen Jachimowicz. 43.3: How Fill Factor Affects Display Image Quality. *1998 SID*. No page numbers given.

76 David Belding. Cutting Edge Display Technology: The Diamond Vision Difference. *Mitsubishi Diamond Vision – Technical Information Internet Article – <http://www.amasis.com/diamondvision/technical.html>* 1/12/99. 2 pages.

77 Mary C. Dyson and Gary J. Kipping. The Effects of Line Length and Method of Movement on Reading from Screen.
<http://fontweb/internal/repository/research/linelength.asp?RES=ultra> 6/3/98. 20 pages.

78 Mary C. Dyson and Gary J. Kipping. Exploring the Effect of Layout on Reading from Screen.
<http://fontweb/internal/repository/research/explore.asp?RES=ultra> 6/3/98. 10 pages.

79 Mary C. Dyson and Gary J. Kipping. The Legibility of Screen Formats: are Three Columns Better than One?
<http://fontweb/internal/repository/research/scrnformat.asp?RES=ultra> 6/3/98. 16 pages.

80 Mary C. Dyson and Gary J. Kipping. Legibility on Screen: a report on research into line length, document height and number of columns.

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609, draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant:

Bill Hill et al.

Serial No.:

10/603,537

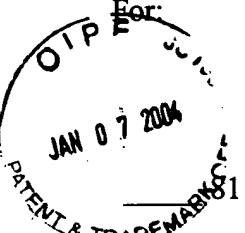
Att'y Docket No.: 14984.12.2.1

Filing Date:

June 24, 2003

Group: 2173

**IMPROVING THE QUALITY OF DISPLAYED IMAGES
WITH USER PREFERENCE INFORMATION**



81 <http://fontweb/internal/repository/research/scrnlegi.asp?RES=ultra>
August 1996. 7 pages.
No author is listed. Typographic Research.

82 <http://fontweb/internal/repository/research/research2.asp?RES=ultra>
a 6/3/98. 2 pages.
Microsoft. How Does Hinting Help?
<http://www.microsoft.com/typography/hinting/how.htm?fname=T20&fsiz>
e= 11/15/1999. 7 pages.

83 Microsoft. The Raster Tragedy at Low Resolution, or: why correct math looks wrong on screen and how to fix it.
<http://www.microsoft.com/typography/tools/trtalr.htm?fname=%20&fsi>
ze= 11/17/1999. 27 pages.

84 Microsoft. The True Type Rasterizer.
<http://www.microsoft.com/typography/what/raster.htm?fname=%20&fsiz>
e= 11/2/99. 1 page.

85 Microsoft. True Type Fundamentals.
<http://www.microsoft.com/typography/OTSPEC/TTCH01.htm?fname=%20&fsi>
ze= 11/12/1999. 17 pages.

86 Microsoft. True Type Hinting.
<http://www.microsoft.com/typography/hinting/hinting.htm> 11/2/99. 1 page.

87 NASA: Space, Telecommunications And Radioscience Laboratory. Color Image Processing for Flat Panel Visual Display Modeling. *Starlab - Department of Electrical Engineering/EERA . Stanford University . Stanford, CA 94305-4055*
March 30, 1995. 12 pages.

References Cited by Applicants

While the filing of Information Disclosure Statements is voluntary, the procedure is governed by the guidelines of Section 609 of the Manual of Patent Examining Procedure and 37 C.F.R. §§ 1.97 and 1.98. To be considered a proper Information Disclosure Statement, Form PTO-1449 shall be accompanied by a copy of each listed patent or publication or other item of information and a translation of the pertinent portions of foreign documents (if an existing translation is readily available to the applicant), an explanation of relevance of each reference not in the English language, and should be submitted in a timely manner as set out in MPEP Sec. 609.

Examiners will consider all citations submitted in conformance with 37 C.F.R. § 1.98 and MPEP Sec. 609 and place their initials adjacent the citations in the spaces provided on this form.

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609, draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Applicant:

Bill Hill et al.

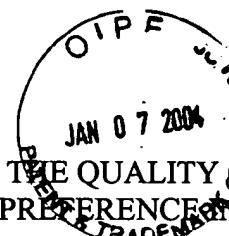
Serial No.:

10/603,537

Filing Date:

June 24, 2003

For:

IMPROVING THE QUALITY OF DISPLAYED IMAGES
WITH USER PREFERENCE INFORMATION

Att'y Docket No.: 14984.12.2.1

Group: 2173

Examiners will also initial citations not in conformance with the guidelines which may have been considered. A reference may be considered by the Examiner for any reason whether or not the citation is in full conformance with the guidelines. A line will be drawn through a citation if it is not in conformance with the guidelines AND has not been considered. A copy of the submitted form, as reviewed by the Examiner, will be returned to the applicant with the next communication. The original of the form will be entered into the application file.

Each citation initialed by the Examiner will be printed on the issued patent in the same manner as references cited by the Examiner on Form PTO-892.

The reference designations "A1," "A2," etc. (referring to Applicant's reference 1, Applicant's reference 2, etc.) will be used by the Examiner in the same manner as Examiner's reference designations "A," "B," "C," etc. on Office Action Form PTO-1142.

W:\14984\12.2.1\RN0000000535V001.doc

Examiner:

Date Considered:

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609, draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

CERTIFICATE OF MAILING BY "EXPRESS MAIL" (37 CFR 1.10)

Applicant(s): Bill Hill, et al.

Docket No.

14984.12.2.1

Serial No.
10/603,537Filing Date
June 24, 2003Examiner
UnassignedGroup Art Unit
2173

IMPROVING THE QUALITY OF DISPLAYED IMAGES WITH USER PREFERENCE INFORMATION

Invention

JAN 07 2004

PATENT & TRADEMARK OFFICE

Thereby certify that the following correspondence:

Transmittal Letter (2 pages) (in duplicate); Information Disclosure Statement (2 pgs.); PTO Form 1449 listing all cited references (8 pgs.); Legible copies of 85 references; Transmittal for Revocation & Substitute Power of Attorney (1 pg); Revocation & Substitute POA (14 pgs); Certificate of Express Mail Label No. EV 396 739 712 US; and postcard

(Identify type of correspondence)

is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on

January 7, 2004

(Date)

Beth Woodham

(Typed or Printed Name of Person Mailing Correspondence)

(Signature of Person Mailing Correspondence)

EV 396 739 712 US

("Express Mail" Mailing Label Number)

Note: Each paper must have its own certificate of mailing.